

Title (en)

Potassium hexatitanate fibers, and composite material containing said fibers.

Title (de)

Kaliumhexatitanatfasern und diese Fasern enthaltendes Material.

Title (fr)

Fibres d'hexatitanate de potasse et matériaux composites contenant ces fibres.

Publication

EP 0323012 A2 19890705 (EN)

Application

EP 88310518 A 19881109

Priority

- JP 13711088 A 19880603
- JP 32933887 A 19871225

Abstract (en)

Potassium hexatitanate fibers having a tunnel structure and a free potassium content of 5 ppm or less can be produced by mixing together a titanium containing compound and a potassium containing compound in a ratio represented by the formula $K_2O \cdot nTiO_2$ (wherein $n =$ from 2 to 4); firing the mixture at 900 to 1,200 DEG C to produce mass of potassium titanate fibers; dipping the mass of product in either cold or hot water to disintegrate the mass of potassium titanate fibers into individual single fibers; adding an acid to the slurry to adjust the pH value to 9.3 - 9.7, thereby changing the composition of the potassium titanate fibers so that the molar ratio of TiO_2/K_2O is in the range of from 5.95 to 6.00; heating the fibers at 950 to 1,150 DEG C for 1 hour or more; and washing the fibers with an acid. The potassium hexatitanate fibers, which have a minimal free potassium content, i.e., 5 ppm or less, can be suitably used as a reinforcing material for polyester thermoplastic resins, polyphenylene sulfide resins, liquid crystal polymers, aluminum alloys, magnesium alloys and so forth, all of which are easily affected by free potassium.

IPC 1-7

C01G 23/00; **C08J 5/04**; **D01F 9/08**

IPC 8 full level

C01G 23/00 (2006.01); **C08K 7/00** (2006.01); **C08K 7/08** (2006.01); **C08L 101/00** (2006.01); **C22C 47/00** (2006.01); **C22C 49/00** (2006.01); **C22C 49/04** (2006.01); **C22C 49/06** (2006.01); **D01F 9/08** (2006.01)

CPC (source: EP US)

C01G 23/005 (2013.01 - EP US); **D01F 9/08** (2013.01 - EP US); **C01P 2004/10** (2013.01 - EP US); **C01P 2004/61** (2013.01 - EP US); **C01P 2006/60** (2013.01 - EP US); **Y10T 428/24994** (2015.04 - EP US); **Y10T 428/249948** (2015.04 - EP US); **Y10T 428/294** (2015.01 - EP US); **Y10T 428/2975** (2015.01 - EP US); **Y10T 428/31507** (2015.04 - EP US); **Y10T 428/31678** (2015.04 - EP US)

Cited by

US5407754A; US5942205A; EP0776998A4; EP0684215A1; US5366816A; US5501264A; US9943465B2

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 0323012 A2 19890705; **EP 0323012 A3 19910116**; **EP 0323012 B1 19930519**; DE 3881186 D1 19930624; DE 3881186 T2 19930902; JP H01301516 A 19891205; JP H0524086 B2 19930406; US 5084422 A 19920128; US 5340645 A 19940823

DOCDB simple family (application)

EP 88310518 A 19881109; DE 3881186 T 19881109; JP 13711088 A 19880603; US 2483293 A 19930302; US 26307288 A 19881027